Skill Procedures:
Transcutaneous Cardiac Pacing

I. Usage

1. This technique is the initial pacing method of choice because of the speed with which it can be instituted and because it is the least invasive pacing technique available. All patient's requiring TCP should have appropriate oxygen therapy and a IV of N/S started prior to pacing.

2. Valium may be administered to alleviate the discomfort and anxiety caused by this procedure.

II. Indications

1. Hemodynamically compromising bradycardia.

   A. Systolic Blood Pressure less than 90 mmHg systolic.

   B. Altered mental status.

2. Bradyasystolic cardiac arrest.

   A. If used at all, pacing should be used as early as possible after onset of arrest.

Skill Procedures:
Transcutaneous Cardiac Pacing

III. Procedural Protocols

1. Attach ECG cable and electrodes to patient, select Lead II. Pacing cannot be initiated or maintained in PADDLES level. If PADDLES lead is selected when cycling through leads during pacing, current returns to 0mA and pacing therapy stops.

2. Connect pacing cable to PACE connector on the defibrillator/monitor.

3. Connect pacing electrodes to pacing cable and position electrodes on patient.

   A. Remove all clothing from patient's torso.

   B. Do not place electrodes over tape or bandages.

   C. Clip or shave excessive torso hair.

   D. Avoid nicks or cuts to skin which may increase patient discomfort.

   E. Clean and dry skin. Briskly wipe skin dry with towel or gauze to abrade skin and remove oils, dirt, etc.

   F. *Do not use alcohol or tincture of benzoin to prepare skin.*

   G. Remove protective liner from electrode.

   H. Firmly press electrode center and edges onto torso for proper adhesion.

III. Procedural Protocols (continued)

4. Select pacing site.

   A. ***Preferred*** *- Anterior-Posterior placement.*

      i. Place the negative electrode on the left anterior torso, halfway between the xiphoid process and the left nipple at apex of the heart.

      ii. Place positive electrode on left posterior torso beneath the scapula and lateral to the spine at heart level.

   B. ***Secondary*** *- Anterior-Lateral placement*

      i. Place negative electrode on the left anterior torso, just lateral to the left of the nipple in the midaxillary line.

      ii. Place the positive electrode on the right anterior upper torso subclavicular area lateral to the sternum.

5. Push PACER button. Adjacent green indicator will illuminate.

6. Set pacing rate to 60-80 BPM. Push rate button up to increase rate; push rate button down to decrease rate.

7. Observe cardioscope. Sense marker should appear on each QRS complex. If sense marker is not present on QRS or appears elsewhere, adjust ECG size or select another lead and readjust ECG size. If intrinsic beats are not present, omit this step.

8. When unit is sensing properly, activate pacing by pushing the START button. An indicator will flash on and off and a positive pace marker shows on the ECG display with each delivered pacing stimulus.

III. Procedural Protocols (continued)

9. Increase current slowly at 5mA per interval (current level begins at 0mA). Push current button (5mA) up while observing ECG for evidence of electrical capture.

10. Palpate patient's pulse or check blood pressure to assess for perfusion (mechanical capture).

11. When activated, record ECG and record document pacing parameters.

12. To stop pacing, push the STOP button. Indicator lights should go out.

13. To remove pacing electrodes from skin, slowly peel from edge.

IV. Assessing for Capture

1. During pacing, the patient must be monitored at all times and should be assessed for both electrical and mechanical capture.

2. Skeletal muscle twitching should be expected but is not an indication of pacing capture.

3. Electrical capture is usually evidenced by a wide QRS and a tall broad T wave. In some patients, capture may be less obvious, noted only in change in QRS configuration.

4. Mechanical capture is evidenced by signs of improving cardiac output. Palpate pulses, check BP, observe for changes in skin color and temperature as well as improving level of consciousness.

V. Response to Non-Invasive Pacing

1. Externally applied pacing stimuli may produce skeletal muscle contractions. It may be necessary to secure tubing, cables, etc. to prevent their displacement. When using noninvasive pacing on unconscious patients, the patient's level of consciousness may improve during pacing.

VI. Defibrillation During Non-Invasive Pacing

1. Defibrillation can be carried out normally during non-invasive pacing, however:

   A. When the CHARGE button is pushed, pacing will immediately stop.

2. It is generally not necessary to remove pacing electrodes during defibrillation since positioning of standard paddles differs from that of pacing electrodes. If pacing electrodes interfere with paddle or defibrillation electrode placement, remove pacing electrodes.

3. To resume pacing, press PACER button on and follow Procedural Protocols as listed above.

This Page Intentionally Left Blank